We claim:

1. A method for the effective delivery of a viral vector gene therapy pharmaceutical to a mammalian organ comprising contacting the mammalian organ tissue with the viral vector gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, and holding said solution at about 37°C to provide effective delivery of the viral vector gene therapy pharmaceutical to the organ.

2. The method of claim 1, wherein the organ is in vivo and in situ.

3. The method of claim 1, wherein the organ is ex vivo.

4. The method of claim 1, wherein the organ is in vitro.

5. The method of claim 1, wherein the mammalian organ is a kidney, liver, mammary glands, spleen, or lung.

6. The method of claim 1, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.

7. A method for the extended delivery of a gene therapy pharmaceutical to mammalian lung tissue comprising contacting the mammalian lung tissue with the gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, and holding the perfusate solution at about 37°C to provide effective delivery of the gene therapy pharmaceutical to the lung tissue.

8. The method of claim 7, wherein the mammalian lung tissue is in vivo and in situ.

9. The method of claim 7, wherein the mammalian lung tissue is ex vivo.

10. The method of claim 7, wherein the mammalian lung tissue is in vitro.

11. The method of claim 7, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.

12. A method for gene therapy of lung disorders comprising contacting a lung of a patient with a lung disorder with an effective amount of a gene therapy pharmaceutical in a re-circulating, oxygenated perfusate solution, holding the perfusate solution at about 37°C, and delivering the gene therapy pharmaceutical for an amount of time that provides effective delivery of the gene therapy pharmaceutical.

13. The method of claim 12, wherein the lung disorder is selected from the group consisting of cystic fibrosis, α1-antitrypsin deficiency, surfactant protein B deficiency, pulmonary hypertension, pulmonary thrombosis disorders, vasculitis, primary lung tumors, metastatic lung tumors, brochiolitis obliterans, reperfusion injury, lung graft rejection, and combinations thereof.

14. The method of claim 12, further comprising providing a viral vector gene therapy pharmaceutical having a promoter and an expression gene.

15. The method of claim 12, wherein the target is in vivo and in situ.

16. The method of claim 12, wherein the target is ex vivo.